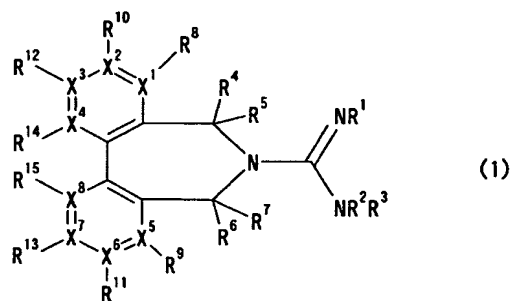


ABSTRACT

A guanidine compound having a biaryl skeleton represented by the following formula (1), which is useful as a catalyst for various asymmetric reactions.



(wherein R^1 , R^2 and R^3 each independently represent a hydrogen atom, a hydrocarbon group optionally having substituent(s), or a heterocyclic group optionally having substituent(s); R^4 to R^{15} each independently represent a hydrogen atom, a hydrocarbon group optionally having substituent(s), a heterocyclic group optionally having substituent(s), a hydroxy group, an alkoxy group optionally having substituent(s), an aryloxy group optionally having substituent(s), an acyl group, an alkoxy carbonyl group optionally having substituent(s), an aryloxy carbonyl group optionally having substituent(s), a carbamoyl group optionally having substituent(s), an alkylthiocarbonyl group optionally having substituent(s), an arylthiocarbonyl group optionally having substituent(s), a carboxyl group, an alkylthio group optionally having substituent(s), an arylthio group optionally having substituent(s), an amino group or a substituted amino group, or a substituted silyl group; or in any combination of R^1 to R^{15} , these substituents may be taken together to form a ring;

and X^1 to X^8 represent a hydrogen atom or a nitrogen atom, provided that, in the case of a nitrogen atom, there is no substituent on X^1 to X^8 .